

GENERALIZED STRATIGRAPHY OF THE SNAKE RIVER BASIN

AND SET TO CENTRAL OA Alluvium OB Alluvium Alluvium		GENERALIZED STRATIGRAPHY	OF THE SNAKE RIVER BASIN			
Da Unnamed Vounger terrace Da		WEST TO CENTRAL	CENTRAL TO EAST			
Unnamed Vounger terrace passalts of the passal	ne	Qa Alluvium	Windblown deposits 0w			
Dasalts Salt	0	Qa				
Upper part of Idaho Group, undifferentiated (sedimentary rocks and basalt, Includes Glenns Ferry Formation) Lower part of Idaho Group Lower part of Idaho Group Lower part of Idaho Group Office Group Formation (Formation) (Ganbury Basalt) Tav Idavada Volcanics Tav Formation, and Formation OTs Sasalt Group Formation OTs Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Tav Tav Tav Tav Tav Ta	RY	llanamad \ " \ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Qa			
Upper part of Idaho Group, undifferentiated (sedimentary rocks and basalt, Includes Glenns Ferry Formation) Lower part of Idaho Group Lower part of Idaho Group Lower part of Idaho Group Office Group Formation (Formation) (Ganbury Basalt) Tav Idavada Volcanics Tav Formation, and Formation OTs Sasalt Group Formation OTs Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Tav Tav Tav Tav Tav Ta	e H	hasalts	Snake River Group			
Upper part of Idaho Group, undifferentiated (sedimentary rocks and basalt, Includes Glenns Ferry Formation) Lower part of Idaho Group Lower part of Idaho Group Lower part of Idaho Group Office Group Formation (Formation) (Ganbury Basalt) Tav Idavada Volcanics Tav Formation, and Formation OTs Sasalt Group Formation OTs Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Tav Tav Tav Tav Tav Ta	e n		//////////////////////////////////////			
Upper part of Idaho Group, undifferentiated (sedimentary rocks and basalt, Includes Glenns Ferry Formation) Lower part of Idaho Group Lower part of Idaho Group Lower part of Idaho Group Office Group Formation (Formation) (Ganbury Basalt) Tav Idavada Volcanics Tav Formation, and Formation OTs Sasalt Group Formation OTs Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Tav Unnamed group of rocks, undifferentiated (includes rhyolite, urt, andesite, basalt, and sedimentary rocks) Tav Tav Tav Tav Tav Tav Tav Ta	Toot	Qb QTs	Yellowstone Gro			
Or Upper part of Idaho Group, undifferentiated (sedimentary rocks and basalt, includes Glenna Ferry Formation) Compared to Idaho Group	0	Upper part of Idaho Group	OTh Plateau Rhyolit			
The state of the s	٦	(Bruneau Formation)/QTs	- / X X X X X X X X X X X X X X X X X X			
Lower part of Idaho Group Formation Try Idayada Volcanics Basali Group Try Idayada Volcanics Basali Formation OTS Unnamed group of rocks, undifferentiated (Includes rhyolite Try Unnamed group of rocks, undifferentiated (Includes rhyolite) Try Unnamed group of rocks, undifferentiated (Includes rhyolite) Try Try Unnamed group of rocks, undifferentiated (Includes rhyolite) Try Try Unnamed group of rocks, undifferentiated (Includes rhyolite) Try Try Try Unnamed group of rocks, undifferentiated (Includes rhyolite) Try Try Try Try Unnamed group of rocks, undifferentiated (Includes rhyolite) Try Try Try Try Try Unnamed group of rocks, undifferentiated (Includes rhyolite) Try Try Try Try Try Try Try Tr		Upper part of Idaho Group, u	indifferentiated (sedimentary, -/, * * *			
Lower part of Idaho Group Lower part of Chalk Hills of Idaho Formation) Formation Formation OTS Walcott Tuff, Starligh Formation OTS Sasalt Formation OTS Sasalt Formation OTS Sasalt Salt Lake Formation OTS Salt Lake Formation OTS Salt Lake Formation OTS Formation OTS Tay Unnamed group of rocks, undifferentiated (Includes rhyolite, tuff, andesite, basalt, and sedimentary rocks) Tay Tay Tay Tay Tay Tay Tay Ta	Cen					
Lower part of Idaho Group Comparison Co	lio	TOTAL TOTAL	10-10-10-10-10-10-10-10-10-10-10-10-10-1			
Lower part of Idaho Group of Idaho of	P	Lower part of Idaho Group	OTI OTI			
Columbia River OTs		Lower part OTS (Chalk Hills //	Lower part of Idaho Group			
Tsv Idavada Volcanics Tsv Sala Lake Formation OTs Sala Lake Formation OTs Sala Lake Formation OTs		Group / Formation)	(Banbury Basalt)			
Solution a Rivery Columbia Rivery Ors Columbia Rivery Ors Dasalt Basalt Columbia Rivery Dasalt Dasalt Columbia Rivery Dasalt Dasalt Dasalt Dasalt Columbia Rivery Dasalt Dasalt		(Poison Creek Formation) OTs				
Basalt Group TD Formation OTS Tsv Unnamed group of rocks, undifferentiated (Includes rhyolite, or tuff, andesite, basalt, and sedimentary rocks) Tsv Tsv Tsv Tsv Tsv Tsv Tsv T	ne	TsvIdavada Volcanics				
Basalt Group TD Formation OTS Tsv Unnamed group of rocks, undifferentiated (Includes rhyolite, or tuff, andesite, basalt, and sedimentary rocks) Tsv Tsv Tsv Tsv Tsv Tsv Tsv T	000	and the second second				
Payette Formation QTs Tsy Formation QTs Tsy	Mio	inmaniation of the state of the				
Tsv Unnamed group of rocks, undifferentiated (Includes rhyolite, tuff, andesite, basalt, and sedimentary rocks) Tsv Tsv Tsv Tsv Tsv Tsv Tsv T		Payette				
The state of the s	× ×	Formation				
The state of the s	IAI		QTs			
Tsv Tsv Tsv Tsv Tsv Tsv Tsv Tsv	IRT 1e					
Tsv	T. Ce	Unnamed group of rocks, undifferentiated (Includes rhyolite,				
SDOOD OF TKIS STATES AND STATES A	(2)					
SDOOD DK Pre-Cretaceous rocks, undifferentiated Modified from Bond and others (1978), No. 20. 20. 20. 20. 20. 20. 20. 20. 20. 20	ō		Tsv			
SDOOD PRESENTED TO VILLE LITE Challis Volcanics Consolidated Sedimentary rocks STOOD PRESENTED TO TREAT TO T						
SDOOD STOOD ST		L L L L T C V L L L L L L L L L L L L L L L L L L				
SDOOD DE LA CONTROL DE LA CONT	900	\\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Lititude Lit			
SDOUGH STREET ST	떠		the contract Toy Label Label of the contract o			
SDOOD DELTA STATE OF THE STATE		" They was the total the t				
SDOOD DELTA STATE OF THE STATE	ne		0.000			
SDOOD DELTA STATE OF THE STATE	00	TKi = 4 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	0.00			
SDOOD STATE	(I)		Tertiary and Cretaceous rocks,			
SOLUTION TO THE SECOND TO THE	ρι	mitrusives, chiefly	undifferentiated (Chiefly '0 -			
TKs						
Pre-Cretaceous rocks, undifferentiated pK pK pK pK pK pK pK pK pK p			TKs			
Pre-Cretaceous rocks, undifferentiated pK pK pK pK pK pK pK pK pK p	AC		. 0 . 0 . 0			
Pre-Cretaceous rocks, undifferentiated pK pK pK pK pK pK pK pK pK p	日	TKi = 1 1 1 1 = 1 1 1 = 1 1 1 1 1 1 1 1 1	Lander to the second of the se			
Pre-Cretaceous rocks, undifferentiated Pre-Cretaceous rocks, undifferentiated pK 1 pK 1 Modified from Bond and others (1978), Modified from Bo	CR		0			
Modified from Bond and others (1978), M		1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			
Modified from Bond and others (1978), M	SUG					
Modified from Bond and others (1978), M	E C		1			
Modified from Bond and others (1978), M	AC	Pre-Cretaceous roo	ks, undifferentiated			
Modified from Bond and others (1978), M			/			
Modified from Bond and others (1978), M	E					
Modified from Bond and others (1978), M	-CRET					
	RE-CRET					
	PRE-CRET					

		lock unit and map symbol	Physical characteristics and areal distribution	Water-yielding characteristics	Known thick ness (ft)
QUATERNARY		Alluvium Qa	Chiefly flood-plain deposits. May contain some qlacial deposits and colluvium in the uplands. Clay, silt, sand, gravel, and boulders; unconsolidated to well compacted; unstratified to well stratified. Alluvium floors the tributary valleys and flood plains of the main streams and forms fans at mouths of some valleys.	Hydraulic conductivity variable, moderately high in coarse-grained deposits. Sandy and gravelly alluvium yields moderate to large quantities of water to wells. Transmissivity ranges from about 16,000 to more than 160,000 ft²/d (Nace and others, 1957, p. 55). Specific capacities commonly range from 20 to 100 (qal/min)/ft. An important aquifer.	<250 (7)
	Holocene	Windblown deposits Qw	Chiefly windblown deposits, include some lake and glacial-flood deposits; mantle much of the lowland areas; include active sand dunes in places, generally in northern Owyhee County and in northern part of eastern plain.	Generally above the water table.	<100 (?)
	e	Younger basalt Qb	Olivine basalt, dense to vesicular, aphanitic to porphyritic: irregular to columnar jointing: thickness of individual flows variable, but averages about 20-25 ft (Mundorff and others, 1964, p. 143). Includes beds of basaltic cinders, rubbly basalt, and interflow sedimentary rocks. Chiefly basalt of the Snake River Group. Crops out in much of Snake River Plain; mantled in many places with alluvium, terrace gravel, and windblown deposits.	Hydraulic conductivity variable but extremely high in places: formational conductivity high because of jointing and rubbly contacts between numerous flows; rock conductivity low. Unit constitutes the Snake Plain aquifer east of King Hill (Mundorff and others, 1964, p. 8). Specific capacities of 50n-1,000 (gal/min)/ft are common. Transmissivity determined from aquifer tests ranges from about 100,000 to more than 1,000,000 ft/d in much of the Snake River Plain (Mundorff and others, 1964, p. 159: Nace and others, 1957, p. 55).	>4,000 Includes gtb below
	Plaistocena	Younger silicic volcanic rocks Qsv	Phyolitic ash-flow tuff, occurs as thick flows and blankets of welded tuff with associated fine— to coarse-grained ash and pumice beds. Include rocks of upper part of the Yellowstone Group and Plateau Phyolite. Mantle much of Yellowstone Plateau in northeastern part of basin.	Hydraulic conductivity generally un- known but may be high as indicated by rapid percolation of surface run- off (Whitehead, 1978, p. 10). Tightly welded in places. Specific capaci- ties range from 2 to 60 (gal/min)/ft. An important aguifer locally.	>3,000
RY	Pliocene.	Basalt (VIII)	Olivine basalt similar to Qb above. Included as part of the Snake Plain aguifer. Tentatively assigned to upper part of Idaho Group. Exposures generally have well developed soil cover.	Hydraulic conductivity slightly lower than Qo above. It decreases with increasing age.	Included with Qb above
OUATERNARY AND TERTIARY L Pleistocene, Plioc	Plaistocena, Pliocana and Miocana	Older alluvium grs	Subaerial and lake deposits of clay, silt, sand, and gravel. Compacted to poorly consolidated; poorly to well stratified; beds somewhat lenticular and intertongued: contains beds of ash and intercalated basalt. Widespread tuffaceous sedimentary rocks and tuff in western part of basin. Includes upper part of Idaho Group and Payette and Salt Lake Pormations. In places, underlies the older basalt (Tb).	Hydraulic conductivity highly variable; generally contains water under confined conditions: yields to wells range from a few gallons per minute from clayey beds to several hundred gallons per minute from sand and gravel. Specific capacities range from 5 to 60 (gal/min)/ft. In places, an important aquifer.	>5,500
TERTIARY Plicens to Plicens	Pliocene and Miocene	Older basalt To	Flood-type basalt, dense, columnar jointing in many places: folded and faulted (except for the Banbury Basalt); may include some rhyolitic and andesitic rocks; some flows of vesicular olivine basalt (Banbury), interbedded locally with minor amounts of stream and lake deposits. Includes Columbia River Basalt Group or equivalent (Miocene) and the Banbury Basalt of the Idaho Group (Miocene).	Hydraulic conductivity variable, may he high in places. Locally yields small to moderate amounts of water to wells from fractures and faults; some interbedded zones of sand and silt yield good supplies of water under confined or unconfined conditions. Specific capacities range from 3 to 900 (gal/min)/ft. An important aquifer.	>7,000 (The Banbury Basalt is generally <1,000. The older basalt may be >7,000 in the western plain)
	Pliocens to Oligocens	Older silicic volcanic rocks	Rhyolitic, latitic, and andesitic rocks, massive and dense: jointing ranges from platy to columnar; occur as thick flows and blankets of welded tuff with associated fine— to coarse—grained ash and pumice beds (commonly reworked by flowing water) and as clay, silt, sand, and gravel; locally folded, ilted, and faulted. Include Idavada Volcanics.	Hydraulic conductivity highly variable. Joints and fault zones in flows and welded tuff and interstices in coarsegrained ash, sand, and gravel yield small to moderate, and rarely large, amounts of water to wells. Commonly contain thermal water under confined conditions. Specific capacities range from 1 to more than 2,000 (qal/min)/ft and are generally less than 400 (qal/min)/ft. An immortant aquifer.	>3,000
	Eccone and Paleccone	Volcanic rocks, undif- ferentiated Tov	Extrusive rocks range in composition from rhyolite to basalt; include welded tuff, pyroclastic, tuffaceous, and other clastic and sedimentary rocks. Chiefly Challis Volcanics; mainly crop out in mountains and foothills north of the eastern plain; may include some intrusive rocks.	Hydraulic conductivity generally low. Little information available on yields to wells. May be an im- portant aquifer locally for domestic and stock use.	>5,000
		Sedimentary rocks, undif- ferentiated TKs	Undifferentiated shale, siltstone, sandstone, and freshwater limestone of Tertiary and Cretaceous age. Younger rocks composed chiefly of breccia, conglomerate, and sandstone. Exposed in eastern part of basin. May include a few small outcrops of Jurassic age.	Hydraulic conductivity generally low. Little information available on yields to wells; weathered zones and fractures may yield moderate quantities of water to wells; large yields may be obtained in places. May be an important aquifer locally.	>10,000
		Intrusive rocks	Chiefly granitic rocks of the Idaho batho- lith: include older and younger crystalline rocks: crop out in a few places south of Snake River in Idaho and northern Nevada.	Hydraulic conductivity generally low. Faults, fractures, and weathered zones may yield small quantities of water to wells. Not an important aguifer.	Unknown
CRETACEOUS		Pre- Cretaceous rocks, undif- ferentiated pK	Well-indurated sedimentary and metamorphic rocks that have been folded, faulted, and intruded by igneous rocks. Crop out in mountainous areas. Include extrusive rocks of Permian and Triassic age in western part of basin. May include Cretaceous or younger sedimentary rocks.	Hydraulic conductivity low. Faults, fractures, and weathered zones may yield small quantities of water to wells. Little information available on yields to wells. Not an important aquifer.	>12,000